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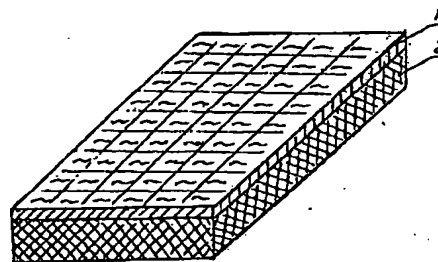
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权利要求书 1 页 说明书 2 页 附图页数 1 页

[54] 实用新型名称 塑料弹性地板垫

[57] 摘要

塑料弹性地板垫涉及的是一种适用于各种地板的弹性地板垫。其特征是结构包括弹性层、压花承压层,在弹性层上部设置有压花承压层。弹性层为高密度塑料发泡层。压花承压层上部压制有花纹。塑料弹性地板垫具有一定强度和足够的抗压能力,可缓冲、减震,同时起到保温、吸音、防潮、防蛀作用。



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权 利 要 求 书

- 1、 一种塑料弹性地板垫，其特征是结构包括弹性层、压花承压层，在弹性层上部设置有压花承压层。
- 2、 根据权利要求 1 所述的塑料弹性地板垫，其特征是弹性层为高密度塑料发泡层。
- 3、 根据权利要求 1 所述的塑料弹性地板垫，其特征是压花承压层上部压制有花纹。

01.09.03

说明书

塑料弹性地板垫

技术领域

本实用新型塑料弹性地板垫涉及的是一种适用于各种地板的弹性地板垫。

背景技术

目前地板拼装时地面上设置有地龙（地棱），再将地板固定在地龙上，施工较麻烦，而且地板容易受潮，使地板容易变形、虫蛀，人走动起来声音较大，影响周围邻居。地板铺装时还需采用二毫米薄塑料泡沫纸作地垫，弹性差，无强度，不能起到缓冲作用，使用时地板容易损坏，这种地垫没有防潮、隔音、保温作用。

发明内容

本实用新型是针对上述不足之处提供一种塑料弹性地板垫，具有压花承压层与弹性层组合结构，该弹性地板垫具有一定强度和足够的抗压能力，可缓冲、减震，同时起到保温、吸音、防潮防蛀作用。

塑料弹性地板垫是采取以下方案实现的：塑料弹性地板垫结构包括弹性层、压花承压层，在弹性层上部设置有压花承压层。弹性层为高密度塑料发泡层，具有一定弹性，并具有一定承压能力。压花承压层具有一定强度、硬度，在压花承压层上部压制有花纹。

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塑料弹性地板垫使用时先将其铺装在地面上，再将地板铺装在弹性地板垫上部即可使用。该塑料弹性地板垫适用于实木、拼木、人造地板作地板垫，也适用地砖、大理石、花岗岩等作地垫。

塑料弹性地板垫由于具有压花承压层与弹性层，因此具有一定的强度和足够的抗压能力，其中弹性层使地板具有弹性脚感，对重物的冲击具有缓冲、减震作用，压花承压层具有一定的强度、硬度，表面压花后增加磨擦力，使地板铺装在地板垫上后不容易滑动，不会变形。塑料地板垫还具有保温、吸音、防潮、防蛀作用，可起到保护地板、延长地板使用寿命的作用。

附图说明

以下将结合附图对本实用新型作进一步说明。

图1是塑料弹性地板垫结构示意图。

具体实施方式

参照附图，塑料弹性地板垫结构具有弹性层2与压花承压层1，在弹性层2上部设置有压花承压层1。弹性层2为高密度塑料发泡层，具有一定弹性和承压能力，可以采用聚乙烯、聚丙烯、聚苯乙烯、聚氯乙烯、聚氨酯等发泡塑料材料制成。压花承压层1具有一定强度和硬度，表面压有花纹，制作时的一种方式是在弹性层2表面经高频压花处理形成一层致密压花承压层1，构成塑料弹性地板垫；另一种方式是在弹性层2表面粘合或热压上一层压花承压层1构成塑料弹性地板垫。

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说明书附图

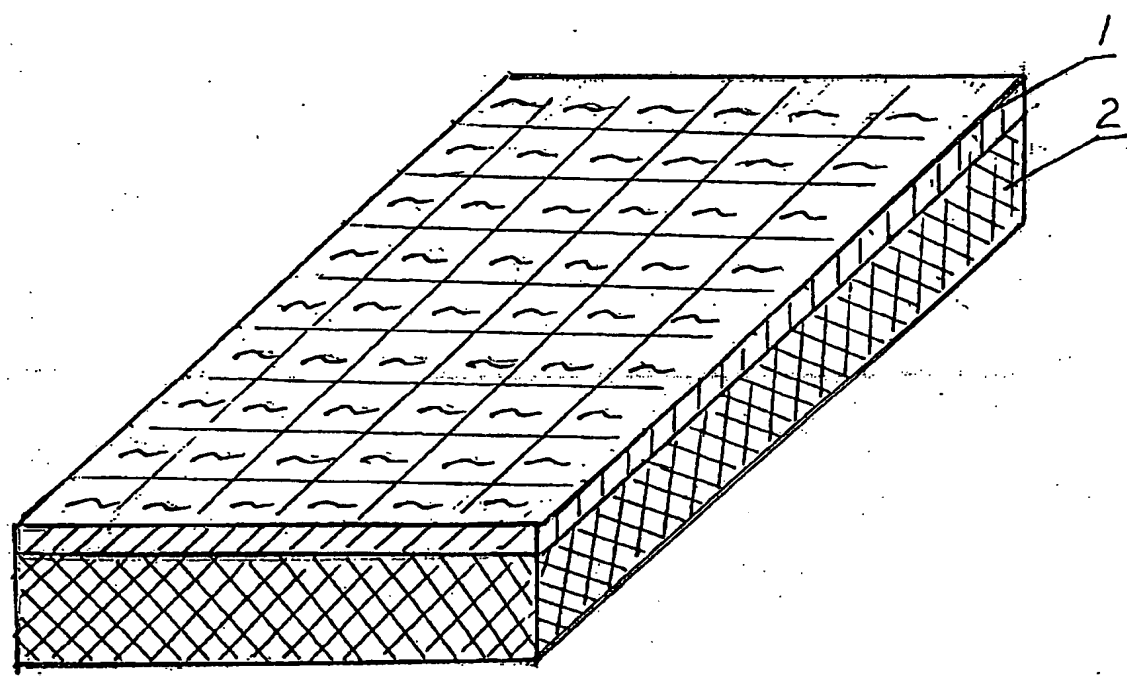


图 1

TEXT OF THE FIRST OFFICE ACTION

Application No: 200380107836.1

This present application mainly relates to a floorboard for resilient floor. As stated in the description, the technical problem directed to be resolved in the present application is to simplify the installation and reduce the cost expenses and the load applied to the joint portion of the floorboard. After examination, the opinions are provided as follows:

1. The independent Claim 1 does not involve an inventive step provided in Article 22, paragraph 3 of the Patent Law of China. Claim 1 claims to protect a floorboard, whereas reference D1 (US3902293 A) discloses a resilient floorboard, with the following technical features disclosed in detail (refer to line 41, column 7 to line 8, column 8 of the description, and Figs. 9 to 10): "a resilient floorboard for making a resilient floor by joining to the neighboring and identical floorboard; so that joined upper neighboring parts of the edge portions of the floorboards together define a joint plane, perpendicular to the main plane of the joined floorboards (equivalent to the main plane indicated in the present application); the resilient floorboard comprising a floorboard main layer, a tongue and a groove (equivalent to the locking system) for the locking of the floorboard, and a resilient layer; wherein the tongue and groove for the locking of the floorboard are arranged along at least two parallel edges of the floorboard and integrated with the floorboard, for mechanical joining, vertically and horizontally, of the floorboard to the neighboring and identical floorboard; the resilient layer is arranged below said floorboard main layer and extends beyond the joint plane of the floorboard, and when observed from the joint plane toward the outside, the resilient layer extends beyond the outermost part of the joint plane of said floorboard". The distinctive technical feature of said Claim 1 with respect to said reference D1 merely consists in that "a supporting layer is disposed between the underside of the floorboard and the resilient base".

Reference D2 (CN2505549 Y) discloses a resilient floor mat with the following technical features disclosed in detail (refer to line 1 to line 3, line 14 to line 21, page 2 of the description, and Fig. 1): "a resilient floor mat is laid below the floorboard, the resilient floor mat comprising an empactic bearing layer (equivalent to the supporting layer indicated in the Claim 1) and a resilient layer, wherein the empactic bearing layer is laid on the resilient layer". It is seen that said reference D2 has already disclosed the aforementioned distinctive technical feature; moreover, said distinctive technical feature serves the same function in the reference D2 as it serves in the present invention, both are for reducing the load

applied to the floorboard, especially to the joint portion of the floorboard; that is to say, said reference D2 has presented an inspiration of applying the foregoing distinctive technical feature to the reference D1 so as to resolve the technical problem of the invention. Therefore, it is obvious for those skilled in the art to achieve the technical solution claimed for protection in said Claim 1 based on the reference D1 and in combination with the reference D2. Thus, said claim does not involve an inventive step.

2. The dependent Claims 2 to 5, 8 to 10 and 12 do not involve an inventive step provided in Article 22, paragraph 3 of the Patent Law of China. Detailed reasons are provided as follows:

- (1) Claim 2 refers to the Claim 1, and it further defines the Claim 1. The additional technical feature in the characterizing portion of said claim has already been disclosed in the reference D1 (ditto) in detail: "since the resilient layer extends beyond the outermost part of the joint plane of said floorboard, when the floorboard is in a joined state, the resilient layer extends at least partly under the neighbouring, and identical floorboard"; moreover, said additional technical feature serves the same function in the reference as it serves in the present invention, both are for reducing the load applied to the joint portion of the floorboard. Therefore, the technical solution claimed for protection in said claim is obvious for those skilled in the art; in case that the Claim 1 to which it refers does not involve an inventive step, the technical solution claimed for protection in said claim does not involve an inventive step, either.
- (2) Claim 3 refers to the Claim 1 or Claim 2, and it further defines said claim. The additional technical feature in the characterizing portion of said claim has already been disclosed in the reference D2 (ditto) in detail: "the resilient layer is made of an elastic material having a certain elasticity"; moreover, said additional technical feature serves the same function in the reference as it serves in the present invention. Therefore, the technical solution claimed for protection in said claim is obvious for those skilled in the art; in case that the Claim 1 or Claim 2 to which it refers does not involve an inventive step, the technical solution claimed for protection in said claim does not involve an inventive step, either.
- (3) Claim 4 refers to the Claim 3, and it further defines the Claim 3. The additional technical feature in the characterizing portion of said claim has already been disclosed in the reference D2 (ditto) in detail: "the elastic material comprises cellular plastic"; moreover, said additional technical feature serves the same function in the reference as it serves in the present

invention. Therefore, the technical solution claimed for protection in said claim is obvious for those skilled in the art; in case that the Claim 3 to which it refers does not involve an inventive step, the technical solution claimed for protection in said claim does not involve an inventive step, either.

- (4) Claim 5 refers to any one of the preceding Claims 1 to 4, and it further defines the claim. The additional technical feature in the characterizing portion of said claim has already been disclosed in the reference D2 (ditto) in detail: "an empaistic bearing layer is adhered to a surface of the resilient layer, and the empaistic bearing layer has a horizontal extent which is as great as a horizontal extent of the resilient layer"; moreover, said additional technical feature serves the same function in the reference as it serves in the present invention. Therefore, the technical solution claimed for protection in said claim is obvious for those skilled in the art; in case that the Claims 1 to 4 to which it refers do not involve an inventive step, the technical solution claimed for protection in said claim does not involve an inventive step, either.
- (5) Claim 8 refers to any one of the preceding Claims 1 to 7, and it further defines the claim. The additional technical feature in the characterizing portion of said claim has already been disclosed in the reference D2 (ditto) in detail: "the empaistic bearing layer has a greater modulus of elasticity than the resilient layer"; moreover, said additional technical feature serves the same function in the reference as it serves in the present invention, both are for reducing the load applied to the joint portion of the floorboard. Therefore, the technical solution claimed for protection in said claim is obvious for those skilled in the art; in case that the Claims 1 to 5 to which it refers do not involve an inventive step, the technical solution claimed for protection in said claim does not involve an inventive step, either.
- (6) Claim 9 refers to any one of the preceding Claims 1 to 8, and it further defines the claim. MDF, HDF, plywood, particle board, wood material, plastic material and metal have excellent pressure-resistant strength; and all of them belong to the conventional materials for fabricating the pressure-resistant floorboard. Said supporting layer for manufacturing the resilient floorboard in the present invention is easily conceivable for those skilled in the art, therefore, the additional technical feature in the characterizing portion of said claim belongs to a common knowledge in the art. Thus, the technical solution claimed for protection in said claim is obvious for those skilled in the art; in case that the Claims 1 to 5 and 8 to which it refers do not involve an inventive step, the technical solution claimed for protection in said claim does not involve an inventive step, either.

- (7) Claim 10 refers to any one of the preceding Claims 1 to 9, and it further defines the claim. The additional technical feature in the characterizing portion of said claim has already been disclosed in the reference D1 (ditto) in detail: "the long sides of the floorboard and the short sides of the floorboard are provided with respectively the tongue and the groove integrated with the floorboard, for mechanical joining, vertically and horizontally, of the floorboard to neighbouring and identical floorboards, so that joined upper neighbouring parts of the edge portions of the long sides and short sides, respectively, together define their respective joint planes which are perpendicular to the main plane (equivalent to the main plane indicated in the present invention) of the joined floorboards, the resilient layer at the edge portion of a short side and the edge portion of a long side extending beyond the respective joint planes"; moreover, said additional technical feature serves the same function in the reference as it serves in the present invention. Therefore, the technical solution claimed for protection in said claim is obvious for those skilled in the art; in case that the Claims 1 to 5 and 8 to 9 to which it refers do not involve an inventive step, the technical solution claimed for protection in said claim does not involve an inventive step, either.
- (8) Claim 12 refers to any one of the preceding Claims 1 to 11, and it further defines the claim. Said claim further defines the application of the floorboard; however, such application is obvious for those skilled in the art. Therefore, the technical solution claimed for protection in said claim is obvious for those skilled in the art; in case that the Claims 1 to 5 and 8 to 10 to which it refers do not involve an inventive step, the technical solution claimed for protection in said claim does not involve an inventive step, either.
3. The independent Claim 13 does not involve an inventive step provided in Article 22, paragraph 3 of the Patent Law of China. Claim 13 claims to protect a kit of parts for making a resilient floors, whereas reference D1 (US3902293 A) discloses a resilient floorboard, with the following technical features disclosed in detail (refer to line 41, column 7 to line 8, column 8 of the description, and Figs. 9 to 10): "a resilient floorboard for making a resilient floor by joining to the neighboring and identical floorboard; so that joined upper neighboring parts of the edge portions of the floorboards together define a joint plane, perpendicular to the main plane of the joined floorboards (equivalent to the main plane indicated in the present application); the resilient floorboard comprising a floorboard main layer, a tongue and a groove (equivalent to the locking system) for the locking of the floorboard, and a resilient layer; wherein the tongue and groove for the locking of the floorboard are arranged along at least two parallel edges of the floorboard and integrated with the floorboard, for mechanical joining, vertically and horizontally, of the floorboard to the neighboring and identical floorboard; the resilient layer is

arranged below said floorboard main layer and extends beyond the joint plane of the floorboard, and when observed from the joint plane toward the outside, the resilient layer extends beyond the outermost part of the joint plane of said floorboard". The distinctive technical feature of said Claim 13 with respect to said reference D1 merely consists in that "a supporting layer is disposed between the underside of the floorboard and the resilient base, and the supporting layer is sized and adapted to present a horizontal extent which is at least as great as a horizontal extent of the resilient base".

Reference D2 (CN2505549 Y) discloses a resilient floor mat with the following technical features disclosed in detail (refer to line 1 to line 3, line 14 to line 21, page 2 of the description, and Fig. 1): "a resilient floor mat is laid below the floorboard, the resilient floor mat comprising an empactic bearing layer (equivalent to the supporting layer indicated in the Claim 1) and a resilient layer, wherein the empactic bearing layer is laid on the resilient layer, and the empactic bearing layer has a horizontal extent which is as great as a horizontal extent of the resilient layer ". It is seen that said reference D2 has already disclosed the aforementioned distinctive technical feature; moreover, said distinctive technical feature serves the same function in the reference D2 as it serves in the present invention, both are for reducing the load applied to the floorboard, especially to the joint portion of the floorboard; that is to say, said reference D2 has presented an inspiration of applying the foregoing distinctive technical feature to the reference D1 so as to resolve the technical problem of the invention. Therefore, it is obvious for those skilled in the art to achieve the technical solution claimed for protection in said Claim 13 based on the reference D1 and in combination with the reference D2. Thus, said claim does not involve an inventive step.

4. The dependent Claims 14 to 16 do not involve an inventive step provided in Article 22, paragraph 3 of the Patent Law of China. Detailed reasons are provided as follows:

(1) Claim 14 refers to the Claim 13, and it further defines the Claim 13. Since such fastening means as adhesives, double-face adhesive tape and nails are conventionally employed in this technical field to join the layers of the floorboard, the additional technical feature of "the underside of the floorboard is provided with fastening means for arranging the resilient base" indicated in the characterizing portion of said claim belongs to a conventional technical method for those skilled in the art. Therefore, the technical solution claimed for protection in said claim is obvious for those skilled in the art; in case that the Claim 13 to which it refers does not involve an inventive step, the technical solution claimed for protection in said claim does not involve an inventive step, either.

- (2) Claim 15 refers to the Claim 13, and it further defines the Claim 13. The additional technical feature in the characterizing portion of said claim belongs to a conventional technical method in the art (detailed reason pls. refer to the above-mentioned opinion). Therefore, the technical solution claimed for protection in said claim is obvious for those skilled in the art; in case that the Claim 13 to which it refers does not involve an inventive step, the technical solution claimed for protection in said claim does not involve an inventive step, either.
- (3) Claim 16 refers to any one of the preceding Claims 13 to 15, and it further defines the claim. The additional technical feature in the characterizing portion of said claim belongs to a conventional technical method in the art (detailed reason pls. refer to the above-mentioned opinion). Therefore, the technical solution claimed for protection in said claim is obvious for those skilled in the art; in case that the Claims 13 to 15 to which it refers do not involve an inventive step, the technical solution claimed for protection in said claim does not involve an inventive step, either.
5. The independent Claim 18 does not involve an inventive step provided in Article 22, paragraph 3 of the Patent Law of China. Claim 18 claims to protect a method for manufacturing floorboard for making a resilient floor, whereas reference D1 (US3902293 A) also discloses a method for manufacturing floorboard for making a resilient floor, with the following technical features disclosed in detail (refer to line 41, column 7 to line 8, column 8 of the description, and Figs. 9 to 10): "a resilient floorboard having a floorboard main layer for making a resilient floor by joining to the neighboring and identical floorboard; so that joined upper neighboring parts of the edge portions of the floorboards together define a joint plane, perpendicular to the main plane of the joined floorboards (equivalent to the main plane indicated in the present application); the resilient layer is arranged below said floorboard main layer and extends beyond the joint plane of the floorboard, and when observed from the joint plane toward the outside, the resilient layer extends beyond the outermost part of the joint plane of said floorboard; and said joining comprising mechanical joining, vertically and horizontally, of the floorboard to the neighbouring and identical floorboard". The distinctive technical feature of said Claim 18 with respect to said reference D1 merely consists in that "a supporting layer is disposed between the underside of the floorboard and the resilient base, and the supporting layer is sized and adapted to present a horizontal extent which is at least as great as a horizontal extent of the resilient base".

Reference D2 (CN2505549 Y) discloses an installation method of a resilient floor

mat with the following technical features disclosed in detail (refer to line 1 to line 3, line 14 to line 21, page 2 of the description, and Fig. 1): “a resilient floor mat is laid below the floorboard, the resilient floor mat comprising an empastic bearing layer (equivalent to the supporting layer indicated in the Claim 1) and a resilient layer, wherein the empastic bearing layer is laid on the resilient layer, and the empastic bearing layer has a horizontal extent which is as great as a horizontal extent of the resilient layer ”. It is seen that said reference D2 has already disclosed the aforementioned distinctive technical feature; moreover, said distinctive technical feature serves the same function in the reference D2 as it serves in the present invention, both are for reducing the load applied to the floorboard, especially to the joint portion of the floorboard; that is to say, said reference D2 has presented an inspiration of applying the foregoing distinctive technical feature to the reference D1 so as to resolve the technical problem of the invention. Therefore, it is obvious for those skilled in the art to achieve the technical solution claimed for protection in said Claim 18 based on the reference D1 and in combination with the reference D2. Thus, said claim does not involve an inventive step.

6. The independent Claim 19 does not involve an inventive step provided in Article 22, paragraph 3 of the Patent Law of China. Claim 19 claims to protect a method for manufacturing floorboard for making a resilient floor, whereas reference D1 (US3902293 A) also discloses a method for manufacturing floorboard for making a resilient floor, with the following technical features disclosed in detail (ditto): “a resilient floorboard having a floorboard main layer for making a resilient floor by joining to the neighboring and identical floorboard; so that joined upper neighboring parts of the edge portions of the floorboards together define a joint plane, perpendicular to the main plane of the joined floorboards (equivalent to the main plane indicated in the present application); the resilient layer is arranged below said floorboard main layer and extends beyond the joint plane of the floorboard, and when observed from the joint plane toward the outside, the resilient layer extends beyond the outermost part of the joint plane of said floorboard; and the tongue and groove integrated with the floorboard are arranged along at least two parallel edges of the floorboard and integrated with the floorboard, for mechanical joining, vertically and horizontally, of the floorboard to the neighboring and identical floorboard”. The distinctive technical feature of said Claim 19 with respect to said reference D1 merely consists in that “a supporting layer is disposed between the underside of the floorboard and the resilient base, and the supporting layer is sized and adapted to present a horizontal extent which is at least as great as a horizontal extent of the resilient base”.

Reference D2 (CN2505549 Y) discloses an installation method of a resilient floor mat with the following technical features disclosed in detail (ditto): “a resilient

floor mat is laid below the floorboard, the resilient floor mat comprising an empastic bearing layer (equivalent to the supporting layer indicated in the Claim 1) and a resilient layer, wherein the empastic bearing layer is laid on the resilient layer, and the empastic bearing layer has a horizontal extent which is as great as a horizontal extent of the resilient layer ". It is seen that said reference D2 has already disclosed the aforementioned distinctive technical feature; moreover, said distinctive technical feature serves the same function in the reference D2 as it serves in the present invention, both are for reducing the load applied to the floorboard, especially to the joint portion of the floorboard; that is to say, said reference D2 has presented an inspiration of applying the foregoing distinctive technical feature to the reference D1 so as to resolve the technical problem of the invention. Therefore, it is obvious for those skilled in the art to achieve the technical solution claimed for protection in said Claim 19 based on the reference D1 and in combination with the reference D2. Thus, said claim does not involve an inventive step.

7. The dependent Claims 5 to 6, 8 to 10, 12 and 17 are multiple dependent Claims themselves, however, they refer to the preceding multiple dependent claims, which does not comply with the provision of Rule 23, paragraph 2 of the Implementing Regulations of the Patent Law of China. Therefore, the applicant should change the related references of the aforementioned claims.
8. The phrase of "substantially" indicated in line 2 of said Claim 17 renders the scope of protection in said claim unclear, which does not comply with the provision of Rule 20, paragraph 1 of the Implementing Regulations of the Patent Law of China. Therefore, the applicant should delete said phrase.
9. The description of the invention records in line 16 to line 18 of page 3 that "...according to the independent claims...", "...from the dependent claims..." and in line 28 of page 19 that "...within the scope of the appended claims"; all of the aforementioned expressions belong to such references to the claims "as described in claim...", which does not comply with the provision of Rule 18, paragraph 3 of the Implementing Regulations of the Patent Law of China. Therefore, the applicant should make amendments to said expressions.
10. A mere formality defect is pointed out in this paragraph, details omitted.

The applicant should respond to each of the problems pointed out in the present office action one after another within the reply time limit designated in the present notification and make amendments to the application documents for a patent for invention in accordance with the examination opinions set forth in the present office action. Especially, he should make amendments to the independent claims and the

corresponding dependent claims of the invention in accordance with the references cited in this notification and present the convincing reasons in the Observations indicating the novelty and the inventive step of the newly revised independent claims with respect to the references cited in the present office action as well as the prior art before the filing date which is mentioned in the original description. The applicant should also note that no amendment made to the application documents shall go beyond the initial disclosure of the description and claims of the invention, so as to comply with the provision of Article 33 of the Patent Law of China.

Examiner: Li Yanqin
Code: B239